

Three Spider Mites of the Genus *Eotetranychus*
Infesting Fruit Trees in Japan
(Acarina : Tetranychidae)¹

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Two new species of the genus *Eotetranychus* from Japan were described and illustrated: *E. boreus* from apricot, Japanese apricot and plum in Hokkaido and apricot in the Tôhoku district; and *E. geniculatus* from grape and strawberry in the Tôhoku district. Notes on some taxonomic characters of *E. asiaticus* EHARA were also given.

Twelve species of spider mites (Tetranychidae) are known to infest fruit trees in Japan (cf. EHARA, 1964). In the present paper two new species of the genus *Eotetranychus* from Japan are described² and figured: *E. boreus* from apricot, Japanese apricot and plum in Hokkaido and apricot in the Tôhoku district; and *E. geniculatus* from grape and strawberry in the Tôhoku district. Thus, fourteen species of spider mites are recognized from Japanese fruit trees. Further, notes on some taxonomic characters of *Eotetranychus asiaticus* EHARA, a pest of citrus and persimmon in Honshu and Kyushu, are given in this paper.

***Eotetranychus boreus* n. sp.**

(Jap. name: Anzu-hadani)

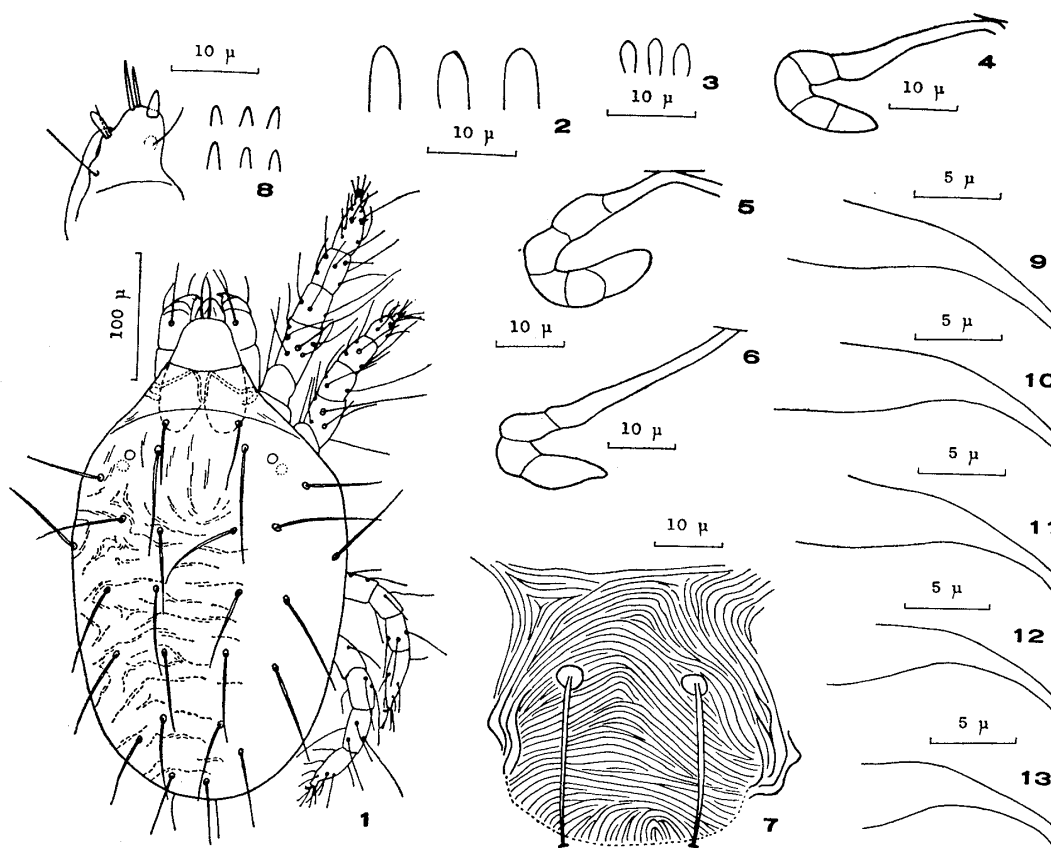
(Figs. 1-17)

Female. Body, including rostrum, 350 to 460 μ long, 190 to 240 μ wide; pale greenish yellow in color, with dark spots along each side. Dorsal setae of idiosoma slender, pubescent, longer than intervals between longitudinal bases; inner sacral setae longer than outer sacral setae, the latter longer than clunal setae. Peritreme U-shaped distally. Medioventral opisthosomal setae normal in thickness. Genital flap more or less transversely striate; area immediately anterior to flap usually irregularly striate, but sometimes the striae rather transverse, or rather longitudinal. Palpus with terminal sensillum about twice the width; dorsal sensillum at least twice the width, much shorter than terminal sensillum. Tarsus I with five tactile and one sensory setae proximal to proximal set of duplex setae; tibia I with

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² The types of the new species are retained in the Biological Institute, Faculty of Education, Tottori University.

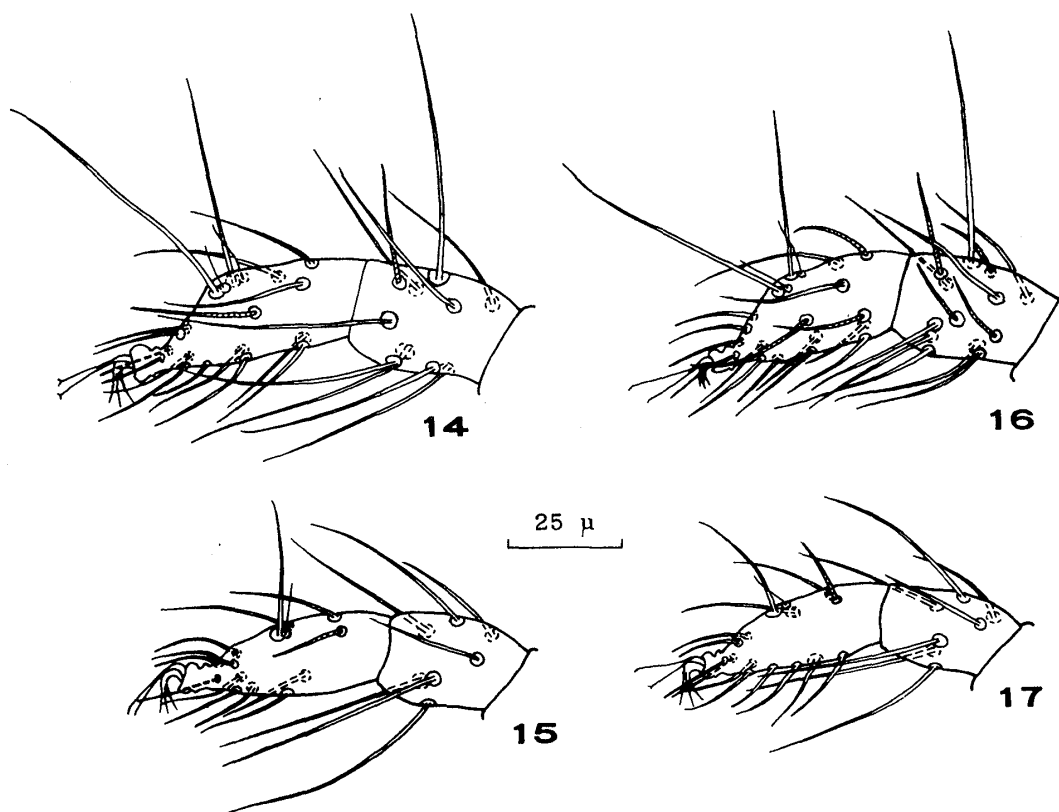
nine tactile and one sensory setae. Tarsus II with one (rarely two) tactile and one sensory setae proximal to duplex setae; tibia II with seven tactile setae. Tarsus III and IV each with nine or ten tactile and one sensory setae; tibia III with five tactile setae, tibia IV with six (rarely five) tactile setae.



Figs. 1-13. *Eotetranychus boreus* n. sp. 1, dorsum of female. 2, terminal sensilla of female palpi. 3, distal sensilla of female palpi. 4-6, peritreme of females. 7, genital and pregenital area of female. 8, distal segment of male palpus, showing variation of terminal sensillum. 9-13, aedeagi.

Male. Body, including rostrum, 320 μ long, 160 μ wide. Aedeagus gently curved caudoventrally near middle of shaft, gradually acuminate; the termination angulate, ventrally directed. Palpus with terminal sensillum subconical, much longer than wide; dorsal sensillum slender, longer than, or as long as terminal sensillum. Tarsus I with four tactile and two sensory setae proximal to proximal set of duplex setae, one sensory seta near level of proximal duplex set; tibia I with nine tactile and four sensory setae. Tarsus II with one or two tactile setae (ventral tactile seta absent or present) and one sensory seta proximad of duplex setae; tibia II with seven tactile setae. Tarsus III and IV each with nine or ten tactile and one sensory setae; tibia III with five tactile setae, tibia IV with six (rarely five) tactile setae.

Types. Holotype(δ): Sapporo, Hokkaido, 21-IX-1962 (S. EHARA leg.), on apricot. Allotype (φ): Sapporo, 18-IX-1962 (S. EHARA leg.), on Japanese apricot. Paratypes: 3 $\delta\delta$ & 6 $\varphi\varphi$, data same as for holotype; 6 $\delta\delta$ & 15 $\varphi\varphi$,



Figs. 14-17. *Eotetranychus boreus* n. sp. 14, tarsus and tibia I of female. 15, tarsus and tibia II of female. 16, tarsus and tibia I of male. 17, tarsus and tibia II of male.

data same as for allotype; 5♂♂ & 14♀♀, Sapporo, 21-IX-1962 (S. EHARA leg.), on plum; 5♂♂ & 13♀♀, Hirosaki, Aomori Pref., 22-VII-1966 (M. YAMADA leg.), on apricot.

Distribution and hosts. Hokkaido and Honshu. Parasitic on apricot, Japanese apricot, and plum.

Remarks. The aedeagus of *Eotetranychus boreus* n. sp. is identical with those of Honshu and Kyushu specimens of *E. asiaticus* EHARA (see Figs. 26-29). But, this new species is distinguished from *asiaticus* by having seven instead of eight tactile setae on tibia II of both sexes. Furthermore, the new species differs from *asiaticus* in the U-shaped peritrematal ends of both sexes, and in the distinctive striation of the genital and pregenital area of female.

***Eotetranychus asiaticus* EHARA**

(Jap. name: Kohno-shirohadani)

(Figs. 18-29)

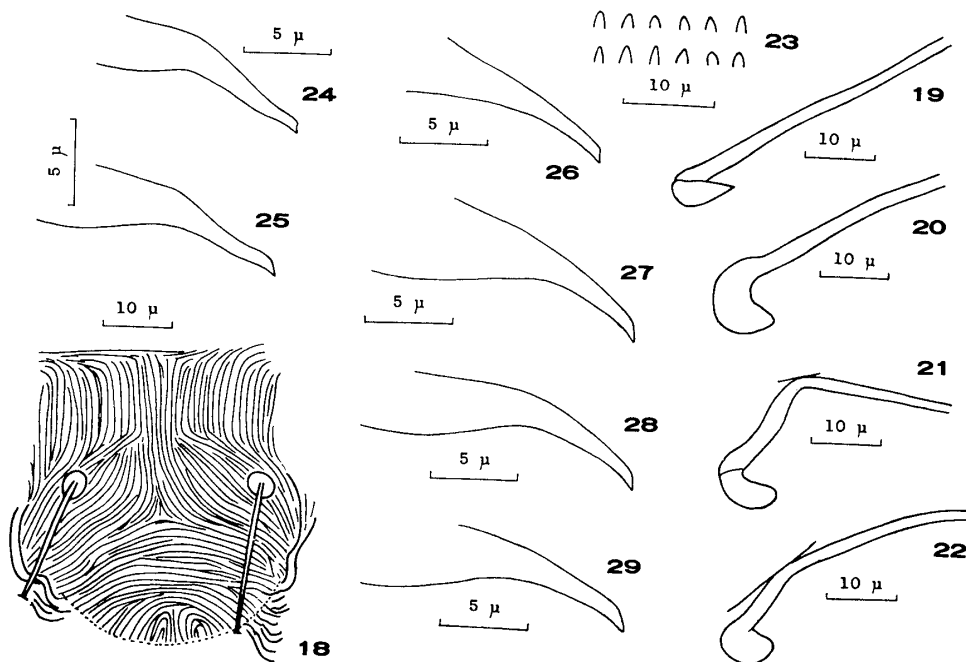
Eotetranychus asiaticus EHARA, 1966, p. 8, Figs. 5-13.

Eotetranychus sexmaculatus (nec RILEY), EHARA, 1956, p. 142, Figs. 11-21.

E. asiaticus was described from specimens taken on *Ficus erecta* THUNB. in Okinawa Island, and is a pest of citrus and persimmon in Honshu and Kyushu. Supplementary notes on some taxonomic characters of this mite are given below.

The genital flap of the female is provided with longitudinal to oblique striae

on the anterior part, and with transverse striae on the posterior part. The area immediately anterior to the flap bears longitudinal striae (erroneously described as "with transverse striae" in EHARA, 1966). The peritremes of the adults are simply tobacco-pipe-shaped. As is figured here, the terminal sensillum of the male varies considerably among specimens. The aedeagi of the Honshu and Kyushu specimens slightly differ from those of the specimens of the type-series (Okinawa Island) in that the distal part does not undulate. The aedeagi in the type-series undulate very weakly.



Figs. 18-29. *Eotetranychus asiaticus*. 18, genital and pregenital area of female. 19-22, peritremes of females. 23, terminal sensilla of male palpi, showing variation in form. 24, 25, aedeagus, Okinawa Island (on *Ficus erecta*). 26, 27, aedeagus, Tarumizu, Kyushu (on citrus). 28, 29, aedeagus, Okitsu, Honshu (on persimmon).

Specimens examined. In addition to the type-series the following specimens have been studied: 5 ♂♂ & 14 ♀♀, Okitsu, Shizuoka Pref., 31-X-1956 (N. SHINKAJI leg.), on persimmon; 9 ♂♂ & 16 ♀♀, Tarumizu, Kagoshima Pref., 10-VII-1956 (M. KOHNO leg.), on citrus.

***Eotetranychus geniculatus* n. sp.**

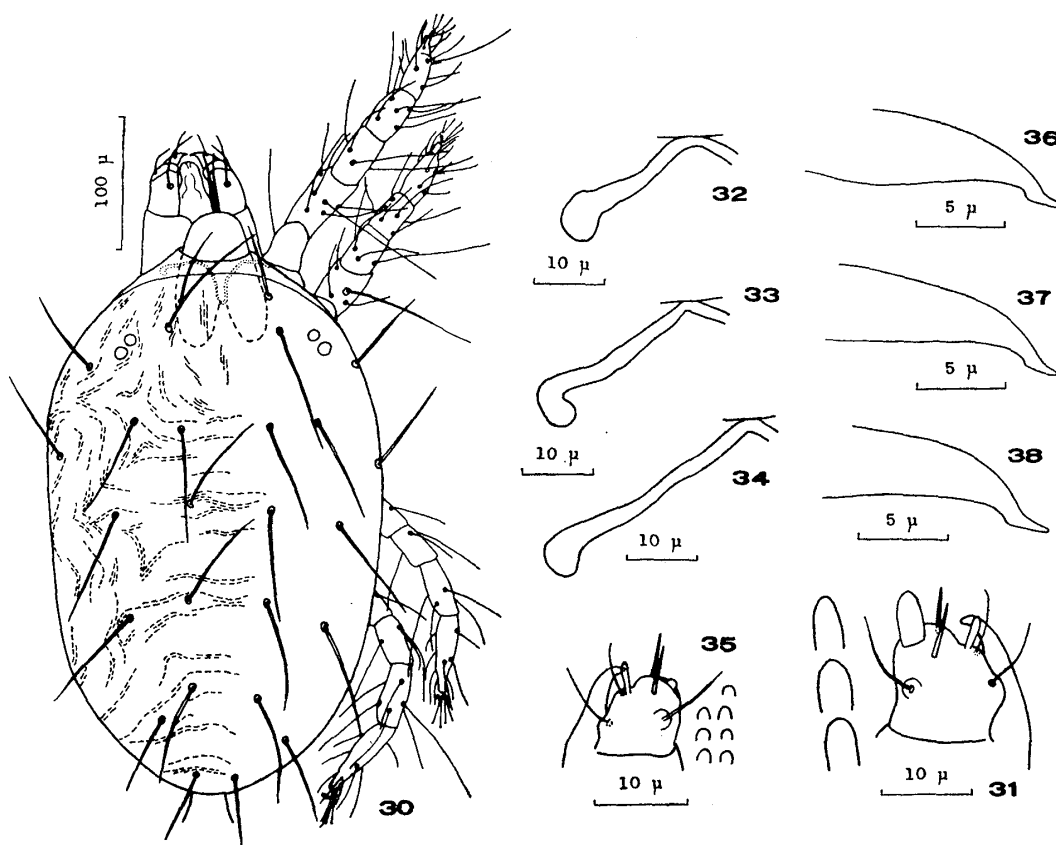
(Jap. name: Michinoku-hadani)

(Figs. 30-42)

Female. Body, including rostrum, 360 to 460 μ long, 190 to 240 μ wide; pale greenish yellow in color, with dark spots along each side. Dorsal body setae slender, pubescent, longer than distances between longitudinal bases; inner sacral setae longer than outer sacral setae, the latter longer than clunal setae. Peritreme more or less tobacco-pipe-shaped distally. Medioventral opisthosomal setae normal in thickness. Genital flap with transverse striae; area just anterior to flap with transverse striae. Terminal sensillum of palpus about twice the width; dorsal sensillum slender. Tarsus I with five or six tactile and one sensory setae proximad

of proximal set of duplex setae; tibia I with nine tactile and one sensory setae. Tarsus II with three tactile and one sensory setae proximal to duplex setae; tibia II with eight tactile setae. Tarsus III and IV each with ten tactile and one sensory setae; tibia III with six tactile setae, tibia IV with seven tactile setae.

Male. Body, including rostrum, 300 μ long, 150 μ wide. Aedeagus gradually bent ventrad to form a slender terminal knob; the terminal knob with an inconspicuous anterior angulation, and with a blunt posterior tip. Palpus with terminal sensillum tiny, nipple-shaped; dorsal sensillum slender, much longer than terminal

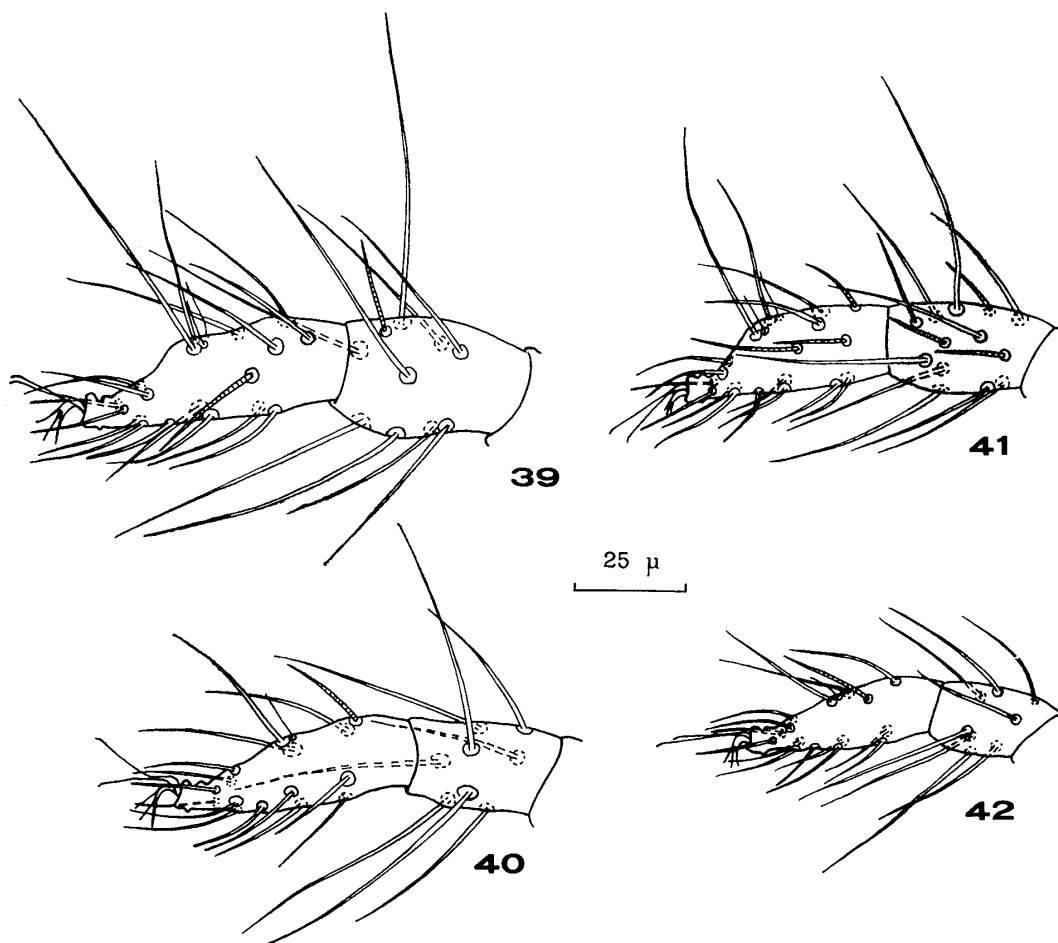


Figs. 30-38. *Eotetranychus geniculatus* n. sp. 30, dorsum of female. 31, distal segment of female palpus, showing variation of terminal sensillum. 32-34, peritremes of females. 35, distal segment of male palpus, showing variation of terminal sensillum. 36-38. aedeagi.

sensillum. Tarsus I with four tactile and two sensory setae proximal to proximal set of duplex setae, one sensory seta near level of proximal duplex set; tibia I with nine tactile and four sensory setae. Tarsus II with three tactile and one sensory setae proximad of duplex setae; tibia II with eight tactile setae. Tarsus III and IV each with ten tactile and one sensory setae; tibia III with six tactile setae, tibia IV with seven tactile setae.

Types. Holotype (♂) and allotype (♀): Morioka, Iwate Pref., 9-IV-1964 (H. SUGAWARA leg.), on strawberry. Paratypes: 5 ♂♂ & 23 ♀♀, data same as for holotype; 6 ♂♂ & 5 ♀♀, Sagae, Yamagata Pref., 4-X-1957 (Z. NAKAMURA leg.), on grape.

Distribution and hosts. Honshu. Parasitic on grape and strawberry.



Figs. 39-42. *Eotetranychus geniculatus* n. sp. 39, tarsus and tibia I of female. 40, tarsus and tibia II of female. 41, tarsus and tibia I of male. 42, tarsus and tibia II of male.

Remarks. The aedeagus of *Eotetranychus geniculatus* n. sp. resembles that of *E. fremonti* TUTTLE et BAKER, 1964 (Arizona), but differs from the latter in that the neck is shorter and broader and the anterior angulation of the terminal knob is inconspicuous. In addition, both sexes of *E. geniculatus* are distinct from those of *fremonti* in having ten instead of eight tactile setae on tarsus III and IV. Moreover, the aedeagus of *E. geniculatus* is somewhat similar to that of *E. friedmanni* GUTIERREZ, 1968 (Madagascar), but is distinct from the latter in that it curves gently ventrad and the terminal knob is longer than the neck portion.

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